Mr. Thomas Glover

THE

January 21st 1831

Literary and Philosophical Society of Manchester,

instituted for the promotion of Science, the Twenty eighth of February,
One thousand Seven hundred and Eighty one, have this Day elected
you an Ordinary MEMBER, In Testimony whereof, this Diploma,
is seal'd with the Seal of the Society, and signed by the
PRESIDENT, Vice PRESIDENTS and SECRETARIES.

John Dalton

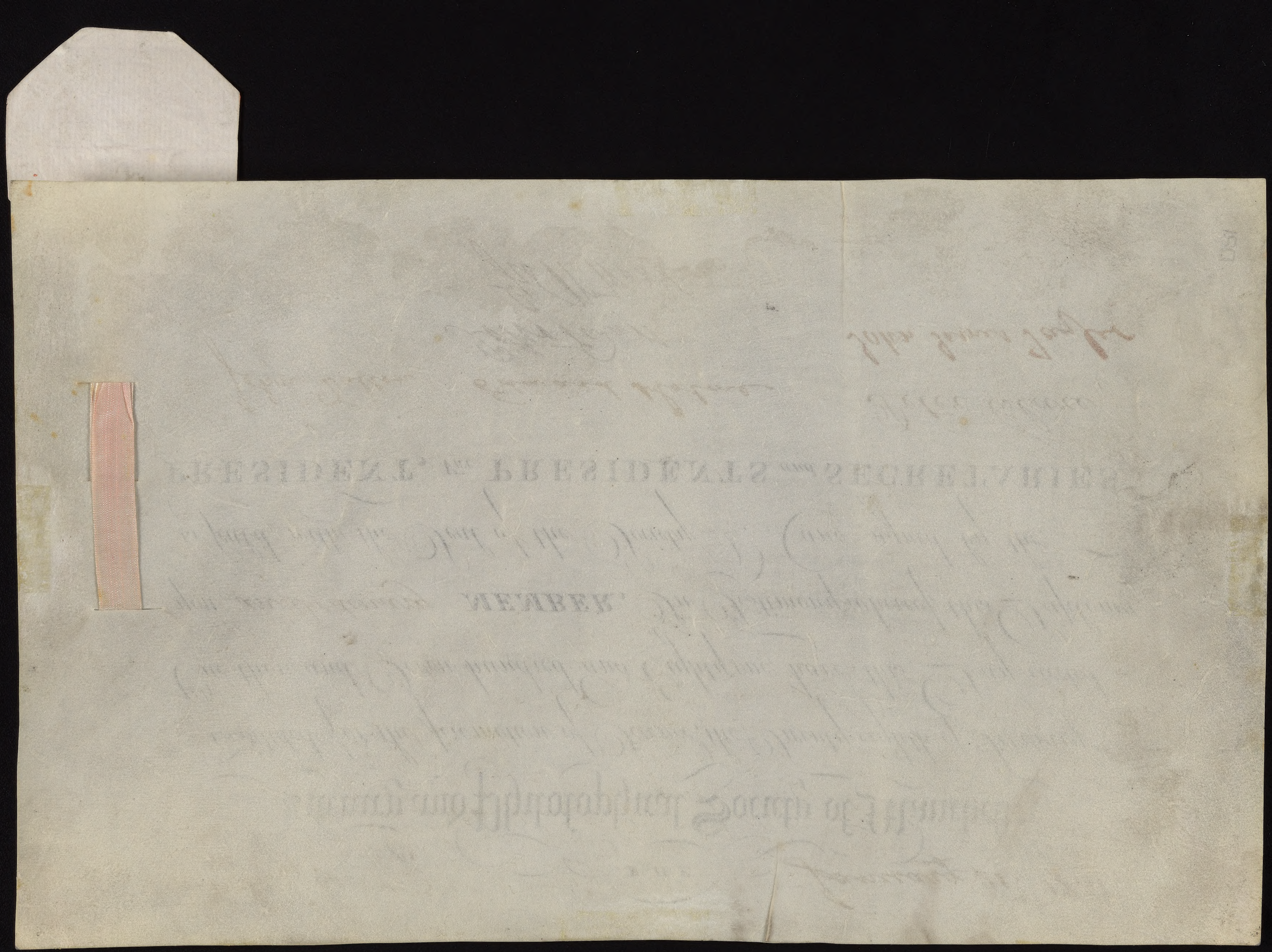
Edward Holme

Peter Clare

Peter Ewart

John James Tayler

Geo. W. Wood



4. Suppose we find by trial the weight of 100 cubic inches of common air saturated with vapour at 60°, the barometer standing at 30 inches to be 30.5 grains, & the weight of hydrogen gas in like circumstances to be 2.118 grains; query the weight of 100 cubic inches of each gas free from vapour, & their specific gravities, the temperature & pressure being as above?

~~Dundee 2.118 by 30.5 grains~~

If 30.5 : 2.118 :: 1 : .0694 = Sp. gr. of vaporized hydrogen, that of vaporized air being 1. Subtracting 1/2 gr. (weight of vapour per table) from 30.5 grs. leaves 30.08 grains; & subtracting .65 parts of an inch from 30 inches leaves 29.35 inches. Hence 100 cubic inches of dry air at the pressure of 29.35 inches weigh 30.08 grains; & we have 29.35 : 30 :: 30.08 : 30.746 grains, the weight of 100 cubic inches of dry air. Again subtracting .42 grains from 2.118 leaves 1.698 grs = weight of 100 cubic inches of hydrogen at 60° & sustaining the pressure of 29.35 inches; whence if 29.35 : 30 :: 1.698 : 1.736 grains, weight of 100 inches of dry hydrogen & 30.746 : 1.736 :: 1 : .05645 = Sp. gr. of dry hydrogen, that of dry air being unity. Or the results may be exhibited as under:

	Weight of 100 cubic inches.	Sp. Gravities.	
Vap. air	30.5 grains	1	14.4
Vap. hydrogen	2.118 —	.0694	1
Dry air	30.746 grains	1	17.7
Dry hydrogen	1.736 —	.05645	1

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DSI

Steubenville, March 25, 1806

Messrs. Cadell & Davies,

Gentlemen,

By your account with the Literary & Philosophical Society of this Place with the end of 1802 was settled at home some time ago when in town. — As a considerable period has since elapsed it would be agreeable to us to know what sale your Memoirs has taken place since. We Butler last having purchased our last volume, we wish them to be furnished with the preceding ones; namely a Dozen copies of Vol 4 part 1 —
" " part 2 "
Vol 5 part 1 — & the said 3 Dozen to be entered in our account.

I am yours &c.

J. Dalton, Sec. to the Society

DSI

CERTIFICATE OF ELECTION OF THOMAS GLOVER TO A FAMED SCIENCE SOCIETY IN 1831 SIGNED BY JOHN DALTON AS PRESIDENT. DALTON PROPOSED THE ELECTRICAL NATURE OF AURORA BOREALIS; HIS TABLE OF ATOMIC WEIGHTS AND HIS ATOMIC THEORY FORMED THE BASIS OF MODERN CHEMICAL SCIENCE.

2½

DSI

Dalton John

1766 – 1844

1.) L.a.s. 1 p. 4° Manchester 25. III. 1806

2.) P.a. 1 p. 4° o.O.u.D.

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